

The **FUTURE** of America is the  
**RESEARCH** of **TODAY**



NATIONAL  
USER  
FACILITY  
ORGANIZATION

# Birthplace of Fundamental Knowledge

From the most elementary building blocks of nature to the most complex structures in living organisms, the research at national user facilities has contributed significantly to unlocking the mysteries of life, health and the universe.

- Over the years scientists at user facilities have discovered all elements of the sub-structure of visible matter in the universe from anti-protons to heavy quarks, from heavy leptons to neutrinos.
- Now we are on the verge to discovering the sources of dark matter, dark energy and the generators of mass in the universe.
- We begin to map out the forces responsible for the interactions between those particles and at the other end of the scale we are starting to understand the cosmological evolution of our universe.
- Nano-technology allows us to build smaller and smaller devices with more and more capacity and features.
- Our understanding of gene structures and tissue brings us closer to solutions for degenerative diseases such as Alzheimers and Parkinsons.
- We find new drugs for epidemics such as HIV and Hepatitis C.
- Materials research opens the door to lighter more resistant and durable materials for the transportation industries.
- New technologies are being applied to renewable energy efforts.
- We begin to understand phenomena such a high temperature super-conductivity which could lead to new energy policies for future generations.

